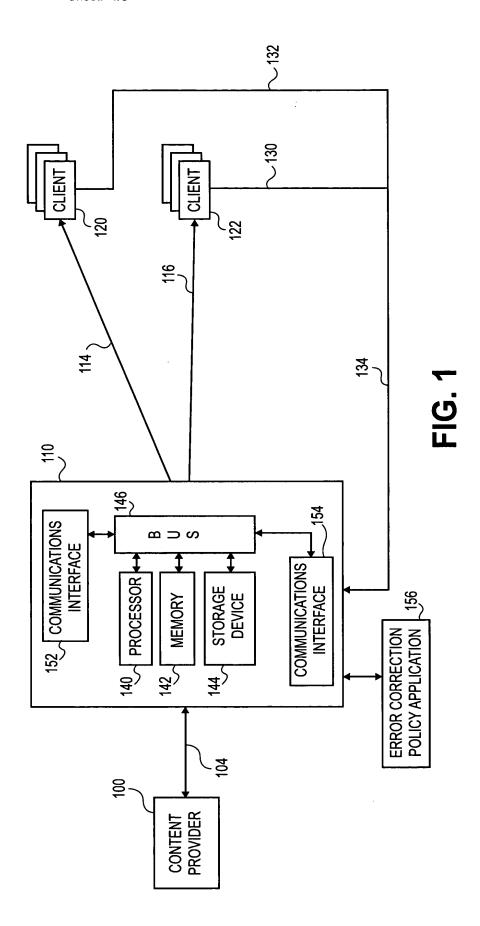
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Blakely, Sokoloff, Taylor & Zafman LLP (310) 207-3800 Title: ERROR CORRECTION FOR REGIONAL AND DYNAMIC FACTORS IN COMMUNICATIONS
1st Named Inventor: Curtis E. Jutzi
Application No.: 09/941,433 Docket No.: 42390P11867 Sheet: 1/5



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Blakely, Sokoloff, Taylor & Zafman LLP (310) 207-3800 Title: ERROR CORRECTION FOR REGIONAL AND DYNAMIC

FACTORS IN COMMUNICATIONS
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REGIONAL FACTORS

TERRAIN INCLUDING MOUNTAINS, HILLS AND TREES

SIGNAL REFLECTIONS OFF BUILDINGS OR OTHER STRUCTURES

EMF INTERFACE

MICROWAVE INTERFERENCE

RADIO FREQUENCY INTERFERENCE

MIXING (CHANNEL OVERLAP OR FREQUENCY SEPARATION) OF AN INTERFERING SIGNAL WITH THE DESIRED SIGNAL RESULTING IN INTERMODULATION AND ADDED NOISE

200

DYNAMIC FACTORS

WEATHER

STORMS

HUMIDITY

SEASONAL VARIATIONS

220

RETRANSMISSION FACTORS

FROM TRANSMITTER TO TRANSMITTER TO SET-TOP BOX

FROM TRANSMITTER TO SATELLITE TO TERRESTRIAL SET-TOP BOX

FROM TRANSMITTER TO SATELLITE TO TRANSMITTER TO SET-TOP BOX

240



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ERROR CORRECTION POLICY APPLICATION

CONTROLS AND OPTIMIZES BANDWIDTH AND QUALITY OF SERVICE (QOS) OF A GIVEN BROADCAST BASED ON REGIONAL FACTORS INCLUDING TERRAIN, DYNAMIC FACTORS INCLUDING WEATHER AND SEASON, AND RETRANSMISSION FACTORS

COMPARES THE TRANSMITTED DATA ERRORS TO AT LEAST ONE OF THE PREDETERMINED TOLERABLE TRANSMITTED DATA ERROR LEVEL AND A PREDETERMINED TOLERABLE TRANSMITTED DATA ERROR LEVEL FOR A PREDETERMINED TIME PERIOD

UTILIZES ERROR CORRECTION CODING AND ERROR DETECTION CODING

UTILIZING FORWARD ERROR CORRECTION (FEC)

DYNAMICALLY ADJUSTS ERROR CORRECTION LEVELS

UTILIZES CONVOLUTIONAL (TREE) CODES AND BLOCK CODES

MEASURES BIT ERROR RATES IN TERMS OF QUANTITY OF BIT ERRORS OCCURRING OVER SOME UNIT OF TIME

NO OTHER ERROR ANALYSIS INPUT IS REQUIRED FOR ERROR CORRECTION OTHER
THAN ERROR REPORTING BY THE SET-TOP BOX

FIG. 3



(310) 207-3800 Blakely, Sokoloff, Taylor & Zafman LLP (310) 207-3
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TRANSMIT DATA TO A CLIENT 400 OPTIONALLY, THE TRANSMITTED DATA IS BROADCASTED DATA 402 THE TRANSMITTING DATA OPTIONALLY INCLUDES UTILIZING AT LEAST ONE OF WIRELESS CONVENTIONAL GROUND TERRESTRIAL TRANSMISSION, DIGITAL TELEVISION (DTV) CONNECTION, ANALOG AND DIGITAL CABLE TELEVISION (CATV), SATELLITE CONNECTION, DIRECT BROADCAST SATELLITE SYSTEM (DBS), WIDE AREA NETWORK (WAN) CONNECTION, AND FORMATS CHOSEN BY THE ATSC AND NTSC RECEIVE TRACKED AND REPORTED TRANSMITTED DATA ERRORS REGARDING THE TRANSMITTED DATA BASED ON REGIONAL, DYNAMIC AND RETRANSMISSION FACTOR 406 OPTIONALLY, THE REPORTED TRANSMITTED DATA ERRORS IS RECEIVED BY A BROADCAST CENTER SERVER 408 THE RECEIVING TRACKED AND REPORTED TRANSMITTED DATA ERRORS OPTIONALLY INCLUDES UTILIZING AT LEAST ONE OF TELEPHONE DIAL-UP CONNECTION THROUGH A WAN, DIAL-UP DIRECTLY, DATA LINK SWITCHING (DLS), CABLE 410 DOCSYS, AND TELEPHONY OPTIONALLY, ASSIGN A PREDETERMINED TOLERABLE TRANSMITTED DATA ERROR LEVEL, AND RECEIVE TRACKED AND REPORTED TRANSMITTED DATA ERRORS ONLY WHEN ONE OF THE TRANSMITTED DATA ERRORS EXCEEDS THE PREDETERMINED TOLERABLE TRANSMITTED DATA ERROR LEVEL AND THE TRANSMITTED DATA ERRORS EXCEEDS THE PREDETERMINED TOLERABLE TRANSMITTED DATA ERROR LEVEL FOR A PREDETERMINED TIME PERIOD 412 IDENTIFY THE SPECIFIC CLIENT REPORTING THE TRANSMITTED DATA ERRORS 414 ANALYZE THE REPORTED TRANSMITTED DATA ERRORS 416 OPTIONALLY COMPARE THE TRANSMITTED DATA ERROR TO A PREDETERMINED TOLERABLE TRANSMITTED DATA ERROR LEVEL AND A PREDETERMINED TOLERABLE TRANSMITTED DATA ERROR LEVEL FOR A PREDETERMINED TIME PERIOD 418 OPTIONALLY ADJUST ERROR CORRECTION BASED ON THE ANALYSIS OF THE REPORTED DATA ERRORS 420 OPTIONALLY, DYNAMICALLY EMPLOY AT LEAST ONE OF FORWARD ERROR CORRECTION AND CAROUSELLING, AND ALTER AT LEAST ONE OF BANDWIDTH AND QUALITY OF SERVICE <u>422</u> TRANSMIT DATA HAVING AN ADJUSTED ERROR CORRECTION TO THE IDENTIFIED CLIENT 424

FIG. 4



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RECEIVE DATA FROM A TRANSMITTER 500 OPTIONALLY, RECEIVE DATA UTILIZING ONE OF WIRELESS CONVENTIONAL GROUND TERRESTRIAL TRANSMISSION, DIGITAL TELEVISION (DTV) CONNECTION, ANALOG AND DIGITAL CABLE TELEVISION (CATV), SATELLITE CONNECTION, DIRECT BROADCAST SATELLITE SYSTEM (DBS), WIDE AREA NETWORK (WAN) CONNECTION, AND FORMATS CHOSEN BY THE ATSC AND NTSC <u>502</u> OPTIONALLY, THE RECEIVED DATA IS BROADCAST DATA 504 TRACK DATA ERRORS, BASED ON A PATH OF THE RECEIVED DATA AND REGIONAL FACTORS INCLUDING TERRAIN, DYNAMIC FACTORS INCLUDING WEATHER AND SEASON, AND RETRANSMISSION FACTORS 506 OPTIONALLY, IDENTIFY DATA ERRORS THAT EXCEED A PREDETERMINED TOLERABLE RECEIVED DATA ERROR LEVEL, AND EXCEED THE PREDETERMINED TOLERABLE RECEIVED DATA ERROR LEVEL FOR A 508 PREDETERMINED TIME PERIOD REPORT ANY DATA ERRORS 510 OPTIONALLY, REPORT ONLY WHEN THE DATA ERRORS EXCEEDS THE PREDETERMINED TOLERABLE RECEIVED DATA ERROR LEVEL AND THE DATA ERRORS EXCEEDS THE PREDETERMINED TOLERABLE <u>512</u> RECEIVED DATA ERROR LEVEL FOR A PREDETERMINED TIME PERIOD OPTIONALLY, REPORT DATA ERRORS UTILIZING ONE OF TELEPHONE DIAL-UP CONNECTION THROUGH A WAN, DIAL-UP DIRECTLY, DATA LINK SWITCHING (DLS), CABLE DOCSYS, AND TELEPHONY 514 OPTIONALLY. THE REPORTED DATA ERRORS IS REPORTED TO A BROADCAST CENTER SERVER 516 OPTIONALLY, RECEIVE DATA HAVING AN ADJUSTING ERROR CORRECTION <u>518</u>

FIG. 5